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(54) Title: METHOD FOR ENABLING INTERNET/INTRANET LOCATION SPECIFIC DIRECTORY OF SERVICES AND/OR APPLICATION OPTIONS FOR WAP-ENABLED DEVICES

(57) Abstract: A method and system to provide users of a roaming telephony devices with location specific directory application functionality pertaining to those specific business services or Internet/Intranet application options which are relevant to or available in the specific geographic area location in which the user of the roaming telephony device is currently located.

Method for Enabling Internet/Intranet Location Specific Directory of Services and/or
Application Options for WAP-enabled devices

FIELD AND BACKGROUND OF THE INVENTION

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Field of the Invention

The present invention utilizes WAP and Wireless Telephony Roaming technologies, and the Internet/Intranet to facilitate a method and system to provide users of a roaming telephony devices with location specific directory application functionality pertaining to those specific business services or Internet/Intranet application options which are relevant to or available in the specific geographic area location in which the user of the roaming telephony device is currently located.

Description of Related Art

15 The existing technologies and methods utilized by providers of Internet and/or Intranet Location Based Directory of service(s) and/or application option(s), as of the filing date of the present invention, fall into two categories as follows:

20 **I- Internet and/or Intranet directories of Location Based business services and/or Internet application options.**

There are literally hundreds of existing Internet and/or Intranet based business/service directories which are either location specific or which enable manual location searches for business services and application options throughout the world. Utilizing these directories, the user must manually specify the desired location and requested business or services. The user is then usually presented with a list of businesses or services as well as other related information for a manually chosen business or service.

In order to contact, purchase or subscribe to a specific business service and/or application option, the user is either provided with an Internet URL address and/or voice telephone

and/or fax telephone numbers and/or email to contact the business service or Internet application option directly.

The disadvantages inherent in such a method include:

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- 1- A manual and time-consuming location search inherent in the process.
- 2- In order to contact, purchase or subscribe to a specific business service and/or application option, the user must connect to a providers Web Site, and a user name and password is often required for the sign-on process. Users of such provider Web Sites often forget either their User Name and/or Password, and must then, though a facility of the Web Site must request that the forgotten User Name and/or Password be sent to an email address which email address has previously been provided by the user to the Web Site during the initial registration process.

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II- WAP-enabled wireless communication devices (such as cellular phones) which provide access to Internet and/or Intranet directories of Location Based business services and/or application options.

20 The method is comprised of a WAP-enabled cellular phone which enables the user to connect to the Internet and/or Intranet. The WAP-enabled cellular phone user can then connect to Internet and/or Intranet based business/service and/or application option directories which are either location specific (i.e., pertain to only a single geographic area) or which enable a manual location searches for business and services throughout the world. Utilizing these directories, the user must manually specify the desired location and requested business or services. The user is then usually presented with a list of businesses or services within the requested location area as well as other related information for a manually chosen business or service.

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Primary examples of such are www.citiwiz.com and www.wap411.com. CitiWiz is a mobile city guide designed to provide mobile phone users with common data for cities, such as dining, accommodations, night life, medical emergencies, embassies, etc. WAP 411 also provides a personalized travel information service, including data for cities, such as
5 Hotels, Movies, Taxis, Sporting Events, Museums & Restaurants. This service provides users with the address, the phone number, the location and the quality of services, all through the cell phone screen.

The disadvantage inherent in such a method includes the need for a manual and time
10 consuming location search inherent in the process.

As of the filing date of the present invention, no method has been disclosed or application developed which provides users of a cellular telephony devices with location specific directory application functionality pertaining to those specific business services or
15 Internet/Intranet application options which are relevant to or available in the specific geographic area location in which the user of the roaming telephony device is currently located.

It would thus be greatly advantageous for such a method to be devised in order to provide
20 the cellular telephone user with the functional utility of a directory of Internet/Intranet services and application options specific to the cellular telephone users' current geographic location.

Summary of Invention

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According to present invention there is provided a method and system for automatically priming the memory of communication devices with directories of providers of business services and/or Internet/Intranet application options, specific to the user's current geographic location

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The present invention utilizes standard Wireless Telephony Roaming, WAP and Internet techniques and/or protocols to determine the current geographic the location of a WAP-enabled device user. Based on the device user location information, a WAP-compliant server application 3 primes the user's WAP-enabled device memory.

5 The memory of the user's WAP-enabled device is primed, by the WAP-compliant server application 3, with a directory of providers of business service(s) and/or Internet/Intranet application options and with corresponding telephone numbers and/or URL addresses and other information required to connect to each of the location specific providers of business service(s) and/or Internet/Intranet application options for the specific geographic area in which the roaming WAP-enabled device user is currently located.

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Furthermore, the present invention utilizes standard cellular roaming technology, WAP and Internet technology and protocols to determine the geographic location of a cell phone user, without the use of burdensome and costly non-telephony related technology.

15 Based on the users current geographic location thus derived, the cellular telephone user would then be efficiently and more cost effectively provided with information regarding providers of business service(s) and/or Internet/Intranet application options specific to the cellular telephone users current geographic location.

20 Further innovations, utilizing the above method, are herein disclosed which enable both users of Non-WAP-enabled devices, as well as well as stationary (i.e., non-roaming) Internet-enabled communications devices to also benefit from and be empowered with the same capabilities detailed in the disclosed method.

25 **BRIEF DESCRIPTION OF DRAWINGS**

The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

FIGURE 1 is a flow chart representing the process inherent in the present invention's
30 roaming telephony location based directory service.

FIGURE 2 is a flow chart representing facility of the present invention to enable a user to connect to the WAP-compliant server application through an Internet site using any Internet-enabled device, other than the user's roaming device, and this connection can be
5 effected through the use of any ISP (Internet Service Provider), located in any geographic location anywhere in the world.

Detailed Description of the Presently Preferred Embodiments

10 The present invention relates to a method and system, utilizing both WAP and Wireless Telephony Roaming technologies, for automatically priming the memory of the cellular telephony user's device with directories of information regarding business services and Internet/Intranet application options which are specific to (i.e. relevant to or available in) the cellular telephone users' current geographic location.

15 The following description is presented to enable one of ordinary skill in the art to make and use the invention as provided in the context of a particular application and its requirements. Various modifications to the preferred embodiment will be apparent to those with skill in the art, and the general principles defined herein may be applied to
20 other embodiments. Therefore, the present invention is not intended to be limited to the particular embodiments shown and described, but is to be accorded the widest scope consistent with the principles and novel features herein disclosed.

25 The present invention utilizes both WAP and Wireless Telephony Roaming technologies.
The WAP (Wireless Application Protocol) Forum is an industry group dedicated to the goal of enabling sophisticated telephony on hand held wireless devices. These devices include mobile telephones, pagers, personal digital assistants (PDAs) and other wireless terminals. Recognizing the value and utility of the World Wide Web architecture, the
30 WAP Forum has chosen to align its technology closely with the Internet and the Web.

The WAP Forum has published global wireless protocol specifications based on existing Internet standards such as XML and IP, for all wireless networks. The WAP Forum does not develop products, but instead creates and publishes license-free standards for the entire industry to use to develop products.

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The WAP specification standards and other WAP Forum publications utilized by the present invention are listed in the References Cited section of this patent application, and these WAP Forum standards and documents, as well as all other WAP Forum standards and documents which were published prior to the date of this application, and are hereby 10 incorporated herein.

Wireless telephony allows users to communicate using devices that are not connected by cords or wires to a fixed station. The way wireless telephony generally works is that it breaks each service area into cells (that is where the term cellular comes from). Cells are 15 geographical zones and each cell is served by one Base Transceiver Station (BTS) operating on a set of radio channels or frequencies. A user in a particular cell will be connected (wirelessly) to the relevant BTS through radio communication. Each BTS in turn is connected to a Base Station Controller (BSC), which serves a group of BTSSs. A number of BSCs are then connected to what is known as the Switch (or the Exchange). 20 The switch is the heart of the wireless infrastructure. This is where all the calls between wireless users as well as to and from the fixed telephone networks are routed.

The key point to interest here is that each cell uses a given set of radio frequencies that are different from the ones being used in neighboring cells. As for the management of 25 users, there are various databases that keep track of the users and their current location. One such database is the Home Location Register (HLR) 5, as can be seen in Figure 1. Every user of a wireless service is registered in an HLR 5, which contains subscription information, authentication information, and location information. The location information contained in the HLR 5 for each user changes dynamically as the user moves 30 around in the service area.

Another important database is the Visitor Location Register (VLR). This database contains the information about users that are not registered in the area's HLR 5 and are visiting from another area. Such users are known as 'roamers' and when they come into
5 an area different from their home location, the VLR is updated by querying the user's HLR 5, and in turn, the user's HLR 5 is updated with the user's current location information. As a result of this process, when somebody calls a roamer, the roamer's HLR 5 has enough information to route the call to the relevant area.

10 A complete technical description of the roaming technology process can be found in the Web Site of the North American Cellular Network (founded in 1991 by Craig McCaw) located at www.nacn.com, in the section entitled "How Roaming Works on the NACN" which is fully incorporated herein by reference.

15 The principles and operation of a system and a method according to the present invention may be better understood with reference to the drawings and the accompanying description, it being understood that these drawings are given for illustrative purposes only and are not meant to be limiting.

20 As detailed above, the Home Location Register (HLR) 5 contains user location information which changes dynamically as the user moves around from one geographic area to another. Roaming utilizes this user location information solely for the purpose of routing calls to the relevant area in which the cellular phone user is currently located.

25 In the present invention, the users current location information is accessed in order to prime the memory of a user's WAP enabled device with location specific information based on the WAP-enabled device user's current geographic location. Said location specific information is comprised of a directory of location specific providers of business service(s) and/or Internet/Intranet application options, and with corresponding location
30 specific (local) telephone numbers and/or URL addresses and other information required

to connect to each of the location specific providers of business service(s) and/or Internet/Intranet application options.

In order to accomplish the above, the geographic location of the user must first be
5 determined. There are several possible techniques used to determine the current geographic location of the user of a user WAP-enabled device, which techniques are well within the capability of one skilled in the art of Telephony Roaming and/or WAP technologies.

10 The presently preferred method entails the following steps:

The WAP-enabled device user connects to an Internet site, which is driven by a WAP-compliant server application 3.

15 The WAP-compliant server application 3 utilizes the WAP Gateway 4, which communicates with other Internet nodes using the standard HTTP protocol. The WAP Gateway 4 processes HTTP requests and provides the capability to access, and interface with, the Home Location Register (HLR) 5 which contains the current geographic location of the roaming WAP-enabled device user.

20 Utilizing the WAP-enabled device user's current geographic location information, the WAP-enabled server application 3 then searches a Multi-Geographic-Location-Directory database (MGLD) 7 which contains location specific data records (i.e., separate data entities) for a plurality of specific geographic locations throughout the world in order to
25 locate the specific data record (i.e., data entity) corresponding to the specific geographic area in which the roaming WAP device user is currently located. The Multi-Geographic-Location-Directory 7 record (i.e., data entity) corresponding to the specific geographic area in which the roaming WAP device user is currently located is thereby located and extracted.

Each database record (data entity) corresponds to a specific geographic location and contains a list of location specific providers of business service(s) and/or Internet/Intranet application options, and with corresponding geographic location specific (local) telephone numbers and/or URL addresses and other information required to connect to each of the
5 location specific providers of business service(s) and/or Internet/Intranet application options.

The data contained in each database record (data entity) corresponding to a specific geographic location is sub-divided into a variable number of separate business service
10 and/or Internet/Intranet application option categories. Each such category pertains to a specific business service or Internet/Intranet application option relevant to or available in the specific geographic location. By way of example, business services category information for a specific database record (data entity) corresponding to a specific geographic location, may include such services such as hotels, restaurants, taxi
15 companies, car rental companies, banks, credit card companies, emergency services, etc.

The WAP-compliant server application 3 then primes, or loads/programs, the memory of the roaming user's WAP-enabled device with location specific directory information, as detailed above, corresponding to the WAP-enabled device user's current geographic
20 location which was extracted from the Multi-Geographic-Location-Directory 7 database. The memory of the roaming user's WAP-enabled device is thus primed with a directory list of providers of business service(s) and/or Internet/Intranet application options and with corresponding telephone numbers and/or URL addresses, and other information required to connect to each of the location specific (local) Internet or Intranet providers of
25 the services and/or option applications for the specific geographic area in which the user's roaming WAP device is currently located.

For example, the Multi-Geographic-Location-Directory database 7 may be configured to contain telephone, fax or SMS numbers, email, chat or instant messaging addresses
30 and/or URL addresses for the services and/or application options available. In this way, a

subscriber may connect to a chosen local service according to a variety of relevant communications means.

As detailed above, the specific database record (data entity) with which the memory of
5 the users cellular telephone or other WAP-enabled device is primed, contains a variable number of separate business service and/or Internet/Intranet application option categories, and each such category pertains to a specific business service or Internet/Intranet application option relevant to or available in the specific geographic location.

10 One such business category which is contained in every database record (data entity) in the Multi-Geographic-Location-Directory 7 pertains to Communication Provider Contact information, which includes telephone number(s) and other information required to contact the local communication provider(s) of Internet and/or Intranet services.

15 This Communication Provider Contact information includes telephone number(s) and other information required to contact the local provider(s) of Internet services. Thus, the memory of the users cellular telephone or other WAP-enabled device is primed with telephone number(s) and other information required to contact the local communication provider(s) of Internet services for the specific geographic location in which the user is
20 currently located.

Therefore, if a roaming cellular user is in a current geographic location which is different than the user's geographic location in which the user is subscribed, the memory of the user's cellular telephone, or other WAP-enabled device, will be primed with the "local"
25 telephone number(s) of the Internet services provider(s), corresponding to the user's current geographic location.

These "local" telephone number(s) of the Communication provider, corresponding to the user's current geographic location, once primed in the memory of the user's cellular
30 telephone or other WAP-enabled device, enables application programming which would

connect the roaming user's WAP-enabled device to the user's Internet service provider via a "local" telephone number.

Such a connection, in which a roaming cellular user is in a current geographic location which is different than the user's geographic location in which the user is subscribed, would have the utility of saving the roaming WAP-enabled device user the expense of making a long distance (i.e., non-local) telephone call.

A WAP-compliant server functional Interactive Directory Service Application is then developed to make functional use of this geographic area specific directory information once the memory of the roaming user's WAP-enabled device has been primed with the Multi-Geographic-location database 7 record (data entity) which corresponds to the specific geographic area in which the roaming WAP device user is currently located.

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The WAP-enabled device user is graphically presented with business service and Internet/Intranet application categories which pertain to a specific business services or Internet/Intranet application options relevant to or available in the specific geographic location in which the roaming WAP device user is currently located.

The user can then choose a specific business services category (e.g. restaurants, banks, emergency services) and be presented with the relevant business services within the chosen category (e.g., a list of restaurants) which are located in the WAP-enabled device's current geographic area. It should be noted that in order to aid in user friendly and convenient ease of use, any directory category may have any number of sub-categories which will be presented to the WAP-enabled device user (e.g., French restaurants, Italian restaurants). As a result of this "drill-down" process, the chosen category or sub-category list of specific business services located in the geographic area in which the roaming WAP device user is currently located is displayed on the user's WAP-enabled device. The user will then select the desired business service.

As mentioned above, the memory of the WAP-enabled user device has already been primed with corresponding local telephone numbers for each of the displayed business services. Although the required telephone number which corresponds to the selected business service may or may not be displayed to the user by the WAP-compliant server application 3, the WAP-enabled device user will not have to manually dial the number. The actual dialing of the selected phone number is facilitated by the by the WAP-compliant server application 3 in response to the user's "One Touch" (press of a button) WAP-enabled device keypad selection. Another method for such selection and automatic dialing process can be initiated by the WAP-compliant server application 3 in response to a user "Voice Command", facilitated in accordance with the voice/data API (Application Program Interface) detailed in the published WAP forum specification.

Alternately, the WAP-enabled device user can choose, using the same procedure as detailed above for business service selection, from Internet/Intranet application categories which pertain to Internet/Intranet application options relevant to or available in the specific geographic location in which the WAP-enabled device user is currently located.

It should be noted that in the case where the roaming user travels to a new geographic location, the above mentioned saving of the expense of making a long distance (non-local) telephone call, will not be realized for the "first" telephone call, to connect the roaming user's WAP-enabled device to the user's Internet service provider.

This is due to the fact that, upon arrival to a new geographic location, the memory of the roaming user's WAP-enabled device is still primed with communication provider contact information corresponding to the last geographic location in which the user's WAP-enabled device connected to the above detailed WAP-compliant server application 3.

The above described new location Internet service provider first call "long-distance" expense can be easily avoided by use of the following innovation.

As can be seen in Figure 2, the user 9 connects to the WAP-compliant server application 3 through an Internet site using any Internet-enabled device, other than the user's roaming device, and this connection can be effected through the use of any ISP (Internet Service 5 Provider) 11, located in any geographic location anywhere in the world. The user will sign on to the Internet Site by providing authentication information (e.g., User-ID, Password, Telephone number, etc.).

As detailed in the above description of roaming technology, that any time user's 10 WAP-enabled device is turned on, and the device is the proximity of a Base Transceiver Station (BTS), the subscribers Home Location Register (HLR) 5 will contain the current geographic location of the user's WAP-enabled device.

Given that the user's WAP-enabled device is turned on, as detailed above, the 15 WAP-compliant Internet site will then determine the geographic location of the user's WAP enabled device. Also, as detailed above, the WAP-compliant Internet site will prime the memory of the user's WAP-enabled device with the MGLC record information corresponding to the geographic area in which the user's roaming WAP device is currently located. As detailed above, the MGLC record information contains 20 Communication Provider Contact information including telephone number(s) and other information required to contact the local provider(s) of Internet services. Thus, the memory of the users cellular telephone or other WAP-enabled device is primed with telephone number(s) and other information required to contact the local communication provider(s) of Internet services for the specific geographic location in which the user is 25 currently located, and the need for a "long-distance" call to contact an ISP is thereby eliminated.

Programming required to implement the above disclosed method, utilizing varying 30 programming methods and technologies, are within the capabilities of the skilled art worker. Also, those skilled in the art will appreciate that the preferred method to

determine the current geographic location of the user of a WAP-enabled device and to prime the memory of said WAP-enabled device as disclosed in the present invention, as described herein above may be modified once this description is known.

5 It is important to note that Non-WAP-enabled devices which have the capability to connect to the Internet and thereby the capability to connect to an Internet site driven by a WAP-compliant server application 3 can also benefit from and be empowered with the same capabilities detailed in the above disclosed method, as long as the Non-WAP enabled device is roaming-enabled. A roaming-enabled device is one which utilizes
10 roaming technology and, as detailed above, in which the current geographic location of the device is stored in the device user's Home Location Register (HLR) 5.

In order to facilitate Non-WAP enabled devices to benefit from the same capabilities as in the above disclosed method, the WAP-compliant server application 3 will also have an
15 Internet-compliant server application component. A WAP-compliant server application 3 is an Internet based server application which uses WAP protocols in order to communicate with, display data on, and receive data from a WAP-enabled device. An Internet-compliant server application uses standard Internet protocols, and formats, including but not limited to HTML and XML, in order to communicate with, display data on, and receive data from any Internet-enabled device. In this manner, the same server application is able to provide the same or similar application functionality to both
20 WAP-enabled and Internet-enabled devices. Therefore, in this application, a combined WAP and Internet compliant server application 3 is employed.

25 The current geographic location of either a user's WAP-enabled device or Internet-enabled device, is determined by the WAP-compliant component of the above described server application 3 which, utilizing the WAP Gateway 4, provides access to the user's Home Location Register (HLR) 5 database which contains the current geographic location of the roaming user's communication device.

Such Non-WAP-enabled devices are defined as any device which is roaming-enabled and can connect to the Internet, such devices include, but are not limited to, mobile computing devices, pagers, personal digital assistants (PDAs), Interactive television, as 5 well as all current and future Third Generation and above (3G and above) broadband communication enabled devices.

Furthermore, it is also important to note that communication devices which are neither WAP-enabled nor roaming-enabled, but yet have the capability to connect to the Internet 10 and thereby the capability to connect to an Internet site driven by a WAP and Internet compliant server application 3 can also benefit from and be empowered with the same capabilities detailed in the above disclosed method. This unique capability is of special utility to third party owned stationary communication devices, including but not limited to, Interactive TVs located in hotel rooms or other locations, which are intended for use 15 by users of roaming telephony users. Such capability can be implemented by the following innovation.

The above described stationary communications device has a corresponding ID, of any sort, utilizing any technology, including but not limited to an embedded digital 20 identification number. By means of this ID information, specific device related information can be thereby determined, correlated and/or extrapolated, including, but not limited to the stationary device's geographic location, device type, and device ownership information.

25 The roaming telephony user will be provided with a User-ID and Password for the use of third party owned stationary Internet-enabled communications devices while roaming. Through the stationary Internet-enabled third party owned communication device, the user will sign-on and connect to the above described WAP and Internet compliant server application 3.

The WAP and Internet compliant server application 3 will then either be able to determine the geographic location of the Stationary Internet-enabled device by means of the device's ID or will be provided this information from the third party owner as part of the sign-on process.

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Thus provided with the geographic location of the Stationary Internet-enabled device, the WAP and Internet compliant server application 3 utilizes the WAP Gateway 4 to access, and interface with, and update, the Home Location Register (HLR) 5 which contains the user's subscription data, account information as well as the current geographic location relating to the user. The HLR's user's current geographic location is then updated by the WAP and Internet compliant server application 3 with the geographic location of the Stationary Internet-enabled device. HLR 5 subscription information is then verified to determine both the user's account status and the facilities which the Stationary Internet device user is entitled to use.

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Also, as detailed above, the WAP and Internet compliant server application 3 will prime the memory of the Stationary Internet-enabled device with the MGLC record information corresponding to the geographic area in which the Stationary Internet-enabled device, being used by the user, is located.

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The user of the Stationary Internet-enabled device will then be able to utilize the location specific directory application functionality, provided by the WAP and Internet compliant server application 3, pertaining to those specific business services or Internet/Intranet application options which are relevant to or available in the specific geographic area location in which the user of the Stationary Internet-enabled device is currently located. Subsequent billing for services used, will be essentially the same process, as currently employed billing methods for the use of roaming billing services.

The foregoing description of the embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. It should be appreciated that many

modifications and variations are possible in light of the above teaching. It is intended that the scope of the invention be limited not by this detailed description, but rather by the claims appended hereto.

References Cited

The WAP Forum Website located at www.wapforum.com

Official WAP Forum Documents contained therein:

5 ◆ WAP Forum Website: www.wapforum.com
◆ WAP Forum White Paper entitled: "Wireless Application Protocol /Wireless Internet Today", dated June 1999
◆ WAP Forum SPEC-WMLScript-19991104.pdf
◆ WAP Forum SPEC-WTAI-19991108.pdf

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The North American Cellular Network (founded in 1991 by industry pioneer Craig McCaw) Website located at www.nacn.com. See sections entitled:

◆ How Roaming Works on the NACN

WHAT IS CLAIMED IS:

1. A method to determine the geographic location of a user WAP-enabled device, and to prime the memory of said WAP-enabled device with location specific information corresponding to the WAP-enabled device user's current geographic location, wherein said location specific information is comprised of a list of location specific providers of business service(s) and/or Internet/Intranet application options, and with corresponding location specific (local) telephone numbers and/or URL addresses and other information required to connect to each of the location specific providers of business service(s) and/or Internet/Intranet application options, comprising the steps of:

Connecting to an Internet site, which is driven by a WAP and Internet compliant server application;

Said WAP and Internet compliant server application then utilizes WAP and/or roaming techniques to determine the geographic location of said WAP-enabled device user;

Utilizing the WAP-enabled device user's current geographic location information, the WAP-enabled server application then searches a "Multi-Geographic Location Directory" (MGLD) 7 database which contains location specific data records (i.e., separate data entities) for several specific geographic locations throughout the world in order to locate the specific data record (i.e., data entity) corresponding to the specific geographic area in which the roaming WAP-enabled device user is currently located.

Said WAP and Internet compliant server application then primes the memory of said user WAP-enabled device with said location specific information, corresponding to the WAP-enabled device user's current geographic location, wherein said location specific information is comprised of a list of location specific providers of business service(s) and/or Internet/Intranet application options, and with corresponding location specific (local) telephone numbers and/or URL addresses and other information required to connect to each of the location specific providers of business service(s) and/or Internet/Intranet application options.

Said WAP-enabled devices may include, but are not limited to, mobile computing devices, pagers, personal digital assistants (PDAs) and Interactive television, as well as include broadband communication devices.

2. A method according to claim 1, wherein devices claimed include the use of Non-WAP-enabled devices, which devices are roaming-enabled and have the capability to connect to the Internet and thereby the capability to connect to an Internet site driven by a WAP and Internet compliant server application. Said Non-WAP-enabled devices may include, but are not limited to a mobile computing devices, pagers, personal digital assistants (PDAs) and Interactive television.

3. A method according to claim 1 wherein devices claimed include 3G and above (third generation and above) broadband communication enabled devices, which devices are roaming-enabled and have the capability to connect to the Internet and thereby the capability to connect to an Internet site driven by a WAP and Internet compliant server application.

4. The method of claim 1, wherein the step of Connecting to an Internet site, which is driven by a WAP and Internet compliant server application, can be accomplished through the use of an Internet-enabled device 10, other than the user's roaming device, and said connection is effected through the use of any ISP (Internet Service Provider), in which said ISP is located in any geographic location.

5. A method according to claim 1 wherein devices claimed include broadband communication enabled devices, which devices are non-roaming stationary devices which have the capability to connect to the Internet and thereby the capability to connect to an Internet site driven by a WAP and Internet compliant server application.

6. A method according to claim 1, wherein a WAP and Internet compliant server Interactive Directory Service Functional Application is developed specifically to make

functional use of the geographic area location specific directory information with which the memory of the roaming device user's device has been primed corresponding to the specific geographic area in which the roaming device user is currently located;

7. The method of claim 6, wherein said Interactive Directory Functional Application may utilize "One Touch" (press of a button) and/or Voice commands to effect dialing to a chosen business service or connectivity to a chosen Internet/Intranet application options.

8. A method for determining the geographic location of at least one wireless communications device, and for automatically priming the memory of the device with location specific information based on the current geographic location of the device, comprising the steps of:

- i. connecting the wireless communications device to an Internet site;
- ii. locating the wireless communications device using roaming technology;
- iii. searching a Multi-Geographic-Location-Directory (MGLD) database for location specific data records, corresponding to a specific geographical area in which the wireless communications device is currently located, as determined in step ii; and
- iv. priming the wireless communications device's memory with relevant said location specific data records, corresponding to the wireless communications device's current geographical location.

9. The method of claim 8, wherein said connecting the wireless communications device to an Internet site is affected by an Internet Service Provider (ISP).

10. The method of claim 8, wherein said locating the wireless communications device further comprises:

- a. connecting to an Internet site, which is driven by a WAP-compliant server application, using the wireless communications device; and
- b. utilizing roaming techniques to determine the geographic location of the communications device.

11. The method of claim 8, wherein said Multi-Geographic-Location-Directory database further comprises at least one directory of information selected from the group of information sources comprising local services data, local business data, local people data and local application options data specific to said user's current geographic location.
12. The method of claim 11, wherein said database further comprises contact data of local destination entities, such that a user can connect with one-command to any displayed destination.
13. The method of claim 8, wherein said wireless communications device is a WAP-enabled device, such that the Wireless Application Protocol transfers data between said device and said Internet site.
14. The method of claim 13, wherein said WAP enabled device is selected from the group consisting of mobile computing devices, pagers, personal digital assistants (PDA's), personal computers, handheld computers, pocket computers, wearable computers and Interactive television.
15. The method of claim 8, wherein said Internet site is driven by a non-WAP compliant server application.
16. The method of claim 8, wherein said wireless communications device is a Non-WAP-enabled device.
17. The method of claim 16, wherein said non-WAP-enabled device is selected from the group consisting of mobile computing devices, pagers, personal digital assistants (PDA's), Personal Computers, handheld computers, pocket computers, wearable computers and Interactive television.

18. The method of claim 8, wherein said wireless communications device is selected from the group consisting of 3G (third generation) devices and broadband communication enabled devices, such that said 3G and broadband devices are roaming enabled.
19. The method of claim 18, wherein said 3G and broadband communication enabled devices are non-roaming stationary devices.
20. The method according to claim 18, wherein said broadband communication enabled devices are connectable to a network driven by a broadband server application.
21. The method of claim 8, further comprising one-touch commands to affect direct connecting to a chosen destination.
22. The method of claim 8, further comprising voice commands to affect direct connection to a chosen destination.
23. A method for executing billing for globally initiated calls from a communications device, comprising the steps of:
 - i. connecting the wireless communications device to an Internet site;
 - ii. locating the communications device using roaming technology;
 - iii. searching a Multi-Geographic-Location-Directory (MGLD) database for location specific data records, corresponding to a specific geographical area in which the communications device is currently located;
 - iv. priming the memory of the communications device with relevant said location specific data records, corresponding to the communications device's current geographical location; and
 - v. connecting directly to at least one location specific data record, by said communications device, such that the process of user billing for services used, is the same process as currently employed billing methods for the use of roaming billing services.

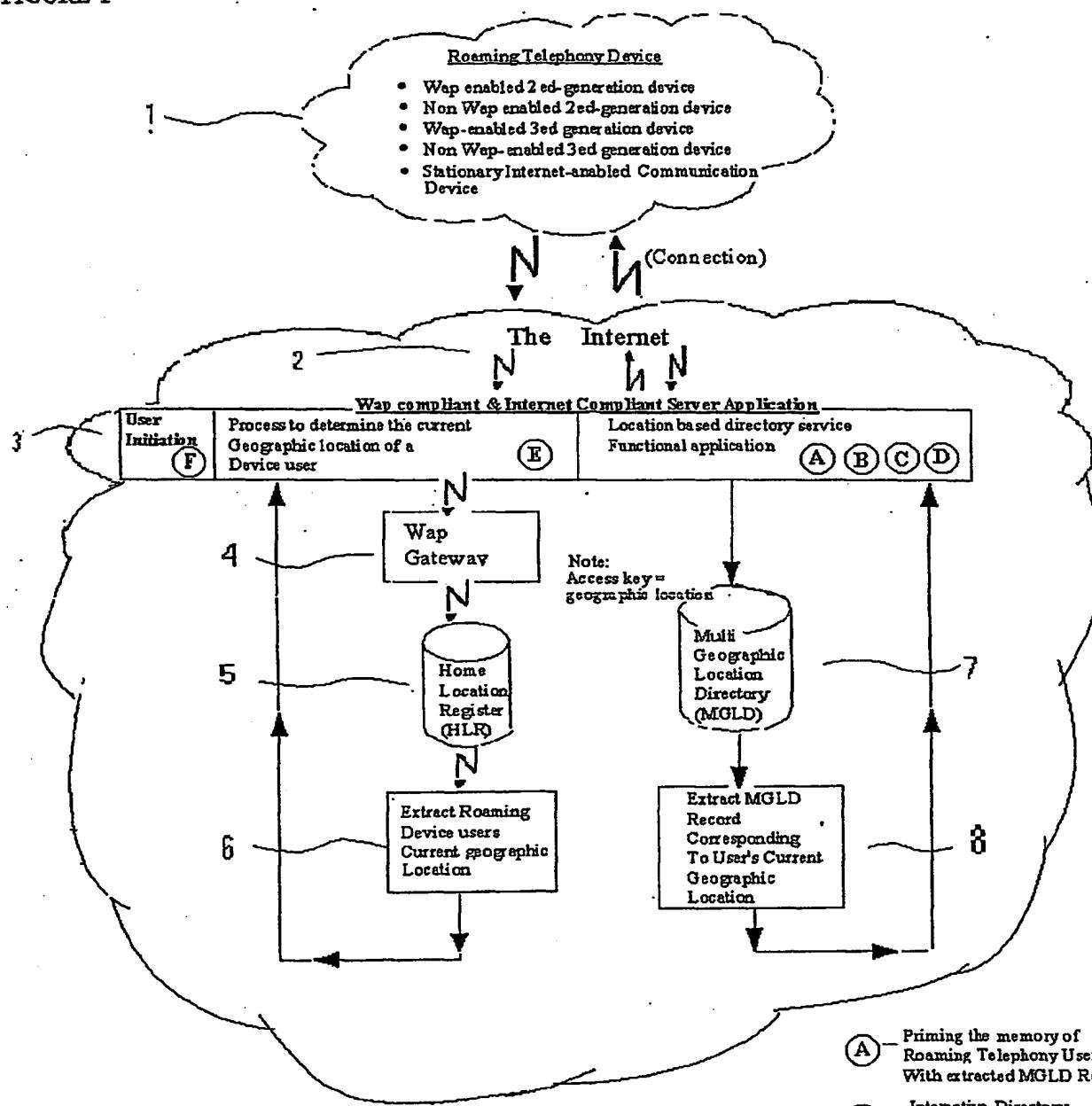
24. A system for priming wireless communication devices with location-based data, comprising:

- i. a WAP-compliant server application;
- ii. a WAP Gateway; and
- iii. a Multi-Geographic-Location-Directory database for storing location specific data records.

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FIGURE 1

Roaming Telephony Location Based Directory Process

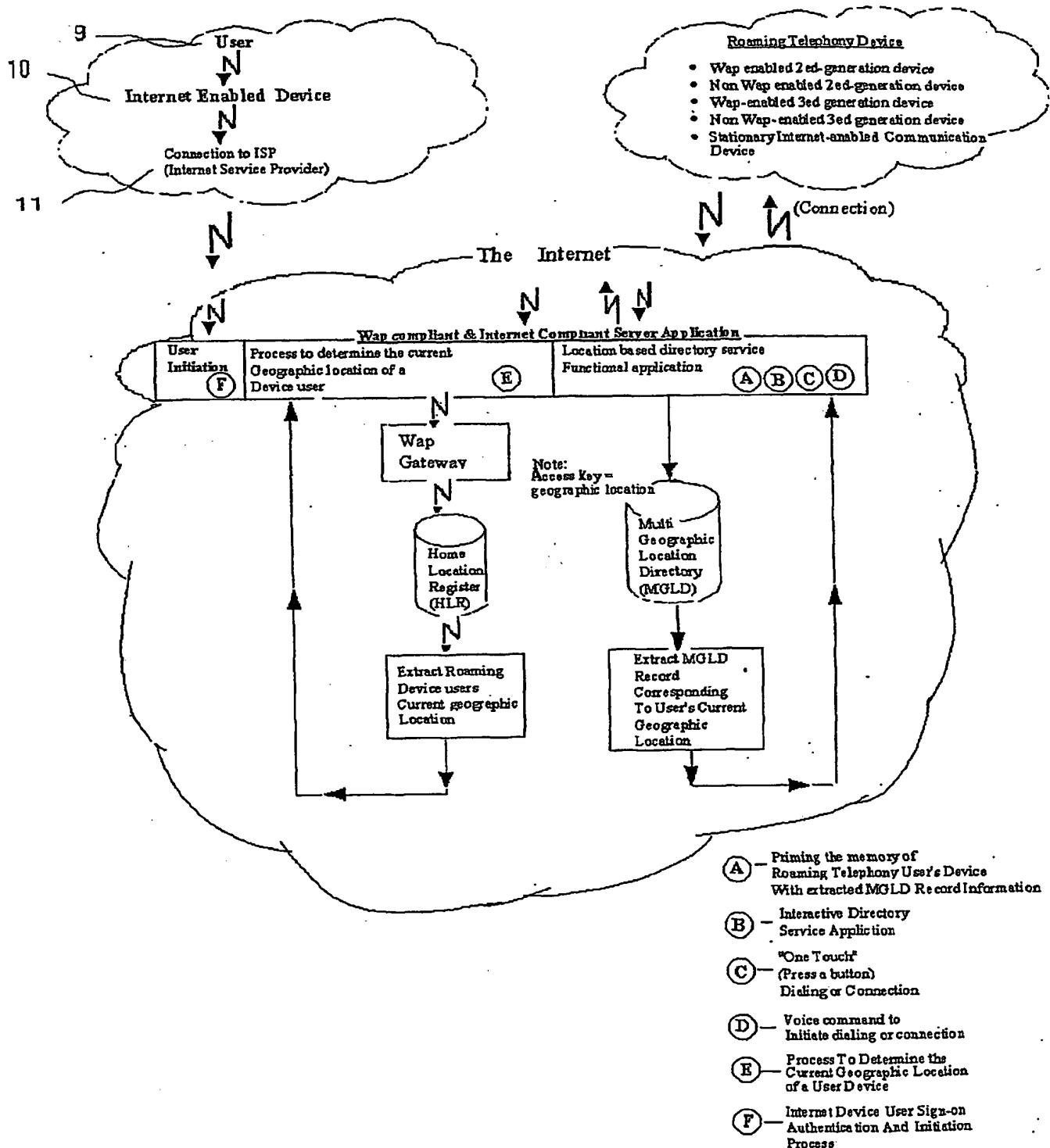


- (A) — Priming the memory of Roaming Telephony User's Device With extracted MGLD Record Info!
- (B) — Interactive Directory Service Application
- (C) — "One Touch" (Press a button) Dialing or Connection
- (D) — Voice command to Initiate dialing or connection
- (E) — Process To Determine the Current Geographic Location of a User Device
- (F) — Internet Device User Sign-on Authentication And Initiation Process

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FIGURE 2

User Internet Initiation



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